CLAIMS

WHAT IS CLAIMED IS:

1. A method of fabricating a component having internal teeth, comprising the steps of:

inserting a cylindrical material into a rotatably driven container in an approximately aligned manner;

pressing and deforming the cylindrical material between an outer circumference of a rolling tool and an inner circumference of said container while sequentially changing a distance between a rotatably driving rolling tool rotational shaft and a container rotational axis to successively grow a tooth profile; and

completing rolling in a state where the cylindrical material fills said container as a result of an enlarged outer diameter by spreading.

2. The method of fabricating a component having internal teeth according to claim 1, further comprising a step of

providing in advance a same number of concave grooves as that of internal teeth to be formed on an inner circumferential surface of the cylindrical material at equal intervals.

3. A rolling machine comprising:

a rotatably driven container into which a cylindrical material for forming a component having internal teeth is inserted in an aligned manner;

a base on which said container is placed through a radial bearing;

a rolling tool having external teeth pressed against an inner side of said cylindrical material to fabricate the internal teeth by rolling;

a rolling tool rotational shaft rotatably driving said rolling tool; and

a transfer mechanism forcibly moving said rolling tool rotational shaft to forcibly change a distance between a rotational axis of said container and said rolling tool rotational

shaft.

4. A rolling machine comprising:

a rotatably driven container into which a cylindrical material for forming a component having internal teeth is inserted in an aligned manner;

a base on which said container is placed through a radial bearing;

a rolling tool having external teeth pressed against an inner side of said cylindrical material to fabricate the internal teeth by rolling;

a rolling tool rotational shaft rotatably driving said rolling tool;

a transfer mechanism forcibly moving said rolling tool rotational shaft to forcibly change a distance between a rotational axis of said container and said rolling tool rotational shaft; and

a vertical expansion shaft performing either one of changing and toughly keeping an axial position of said container with respect to a position of the tool.

5. The rolling machine according to claim 4, wherein

said vertical expansion shaft includes at least two numerical control shafts.

6. The rolling machine according to claim 4, wherein

said vertical expansion shaft includes three independent numerical control shafts arranged in parallel at three points surrounding the container rotational axis.

7. The rolling machine according to claim 4, wherein

said vertical expansion shaft inserts and fits an outer circumference of the container filled with said cylindrical material into an inner side of the radial bearing placed at the base each time rolling processing starts, and disengages the container and the radial bearing from each other after termination of the rolling processing to discharge a processed product and to insert another cylindrical material.

8. The rolling machine according to claim 4, wherein

said transfer mechanism includes a purchase wedge pressing a slider connected to the rolling tool rotational shaft and a spring pushing back the slider, the transfer mechanism controlling a position of said slider by feeding back data of a distance sensor directly monitoring the position of said slider.